



STATEMENT OF BASIS
HANGAR 800
SOLID WASTE MANAGEMENT UNIT NO. 42
45TH SPACE WING
PATRICK AIR FORCE BASE
BREVARD COUNTY, FLORIDA



PURPOSE OF STATEMENT OF BASIS

This Statement of Basis (SB) has been developed in order to inform the public and give the public an opportunity to comment on a proposed remedy to clean up contamination at Hangar 800. A 45th Space Wing (45th SW) installation restoration partnering (IRP) team consisting of United States Air Force (USAF), United States Environmental Protection Agency (USEPA), the State of Florida Department of Environmental Protection (FDEP), the U. S. Army Corps of Engineers, and various environ-

Brief Site Description

Hangar 800 is located on South Patrick Drive at the northeastern end of the main runway at PAFB (See Figure 1). The facility was constructed in 1954 and has been used as a control tower and an air terminal, as well as for aircraft servicing and maintenance activities.

mental consultants have determined that the proposed remedy is cost effective and protective of human health and the environment.

However, prior to implementation of the proposed remedy, the 45th

SW IRP team

would like to give an opportunity for the public to comment on the proposed remedy. At any time during the public comment period, the public may comment as described in the "How Do You Participate" section of the SB. Upon closure of the public comment period, the 45th SW IRP team will evaluate and determine if there is a need to modify the proposed remedy prior to implementation.

WHY IS CLEANUP NEEDED?

The results of the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) indicated that benzo(a)pyrene, a type of

polynuclear aromatic hydrocarbon or PAH, (listed in Table 1) is present in the surface soils at levels that could be potentially harmful to hypothetical future residents and site workers.

HOW DO YOU PARTICIPATE?

The 45th SW IRP team solicits public review and comment on this SB prior to implementation of the proposed remedy as a final remedy.

The final remedy for Hangar 800 will eventually be incorporated into the Hazardous and Solid Waste Amendments (HSWA) Permit for Patrick Air Force Base (PAFB).

The public comment period for this SB and the proposed remedy will begin on the date that a notice of the

SB's availability is published in a major local newspaper of general circulation. The public comment period will end 45 days thereafter. If requested during the comment period, the 45th SW IRP team will hold a public meeting to respond to

The Clean-up Remedy

The proposed clean-up remedy for Hangar 800 includes (but is not limited to) the following components:

- Implementation of land use controls designed to prevent exposure to site contaminants. These include:
 - Prohibition of residential development
 - Protection of site workers
 - Periodic monitoring requirements
 - Posting warning signs on-site

A complete list of land use controls and other protective measures are found in the Hangar 800 Land Use Control Implementation Plan (LUCIP)

any oral comments or questions regarding the proposed remedy. To request a hearing or provide comments, contact the following person in writing within the 45-day comment period:

Mr. Jorge Caspary
FDEP-Bureau of Waste Cleanup
2600 Blair Stone Road, MS-4535
Tallahassee, FL 32399-2400
E-mail: Jorge.Caspary@dep.state.fl.us
Telephone: (850) 921-9986

The HSWA Permit, the SB, and the associated Administrative Record, including the RFI Report, will be available to the public for viewing and copying at:

Environmental Management, CEV/ESC
Facility 1638, Samuel Phillips Parkway
Cape Canaveral Air Force Station, FL
For public access call (321) 853-0965

This information can also be found on-line at
http://www.mission-support.org/45SW_IRP_EA

The HSWA Permit, the SB, and Hangar 800 Report summaries will be available for viewing and copying at:

Central Brevard Library
308 Forrest Avenue
Cocoa, FL, 32922

To request further information, you may contact one of the following people:

Ms. Teresa Green
Environmental Restoration Element Chief
45 CES/CEVR
1224 Jupiter Street
Patrick Air Force Base, FL 32925-3343
E-mail: teresa.green@patrick.af.mil
Telephone: (321) 853-0965

Mr. Jorge Caspary
See previous contact information

Mr. Timothy R. Woolheater, P. E.

EPA Federal Facilities Branch
Waste Management Division
Sam Nunn Atlanta Federal Center
61 Forsyth Street
Atlanta, GA 30303-8960
E-mail: woolheater.tim@epamail.epa.gov
Telephone: (404) 562-8510

FACILITY DESCRIPTION

USAF established the 45th SW as the primary organization for the Department of Defense aerospace force programs. These operations have involved the use of toxic and hazardous materials. Under RCRA and the HSWA Permit (PAFB Permit No. FL257002404) issued by the USEPA, the 45th SW was required to perform an investigation to determine the nature and extent of contamination from Solid Waste Management Unit (SWMU) No. 42, Hangar 800.

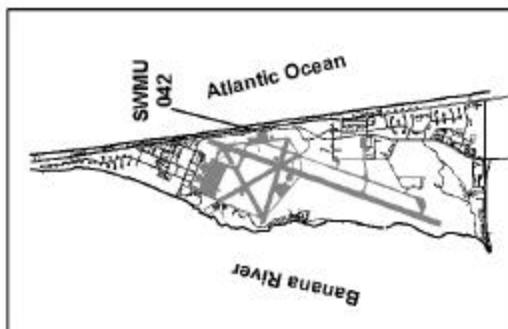
SITE DESCRIPTION AND HISTORY

Hangar 800 is located on the main portion of PAFB, along South Patrick Drive (See Figure 1). It is situated approximately 500 feet west of the Atlantic Ocean, at the northeastern end of the main runway at PAFB. Hangar 800 was constructed in 1945 and has primarily served as a control tower and an air terminal for passengers and freight. Aircraft servicing operations, such as refueling and replenishing oil, along with minor aircraft maintenance activities were carried out at the site from 1945 to 1988.

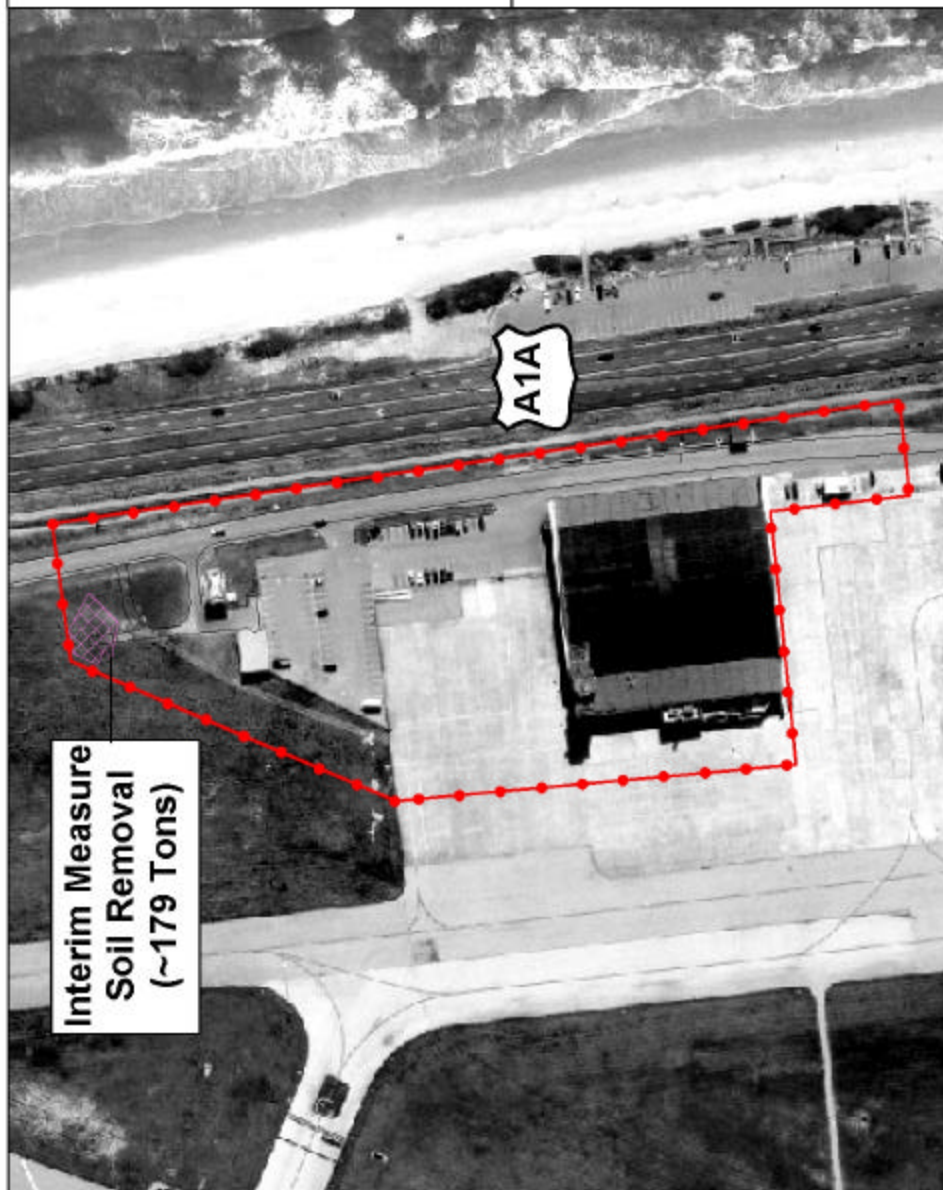
Based on the history of the facility, the USAF initiated IRP activities from 1993 through present.

The USAF conducted the following investigations:

- 1993: A Preliminary Assessment including records search, site reconnaissance, and interviews with knowledgeable aerospace personnel identified three areas of concerns which warranted further investigation. A



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Hangar 800 SWMU 042
Patrick Air Force Base

Site Investigation (SI) was recommended to collect and analyze the site's environmental media (soil and groundwater) to evaluate the presence or absence of contamination.

- 1995-1996: The SI report concluded that the presence of constituents in soil and groundwater might pose a risk to human health and the environment. The SI recommended that a RCRA Facility Investigation (RFI) be conducted to assess the nature and extent of the contamination present at the site, and perform risk assessments to determine if the contamination is detrimental to human or ecological health.
- 1997: An Interim Measure (IM) was performed to remove soil contamination. The clean-up action resulted in the removal of approximately 128 cubic yards (178.5 tons) of soil contaminated with PAHs.
- 1996-1999: An RFI was performed, detailing the sampling and analysis of site soil and groundwater. These results were used to determine human health and ecological risks. The Human Health Risk Assessment (HHRA) indicated that potential risk exists from the site soils. The Ecological Risk Assessment (ERA) indicated that no unacceptable ecological risk is present at the site.

SUMMARY OF SITE RISK

As part of the RFI activities, an HHRA and an ERA were conducted to estimate the health and environmental risks associated with the site-specific contamination. The risk assessments were performed in accordance with risk management decision processes established by the USEPA, FDEP, and the USAF at the time the RFI was initiated.

The Chemicals of Potential Concern (COPCs) identified for human health during the RFI were:

- Soil: benzo(a)pyrene
- Groundwater: arsenic, benzo(a)pyrene,

benzo(a)fluoranthene, cadmium,
manganese

Surface water and sediment features were not present on the site, and were therefore not evaluated as a source of potential human health risk. A soil removal was performed based on initial RFI data in order to reduce risk to human and ecological receptors. The removal targeted all areas where existing soils posed a potential unacceptable risk to current maintenance workers. Remaining soils pose a potential unacceptable risk under the hypothetical future adult resident, hypothetical future child resident, and industrial worker scenarios. Soil exposure under these exposure scenarios exceeded the one in one million (1/1,000,000) cancer threshold. Benzo(a)pyrene was the primary contributor.

Groundwater exceeded the one in one million (1/1,000,000) cancer threshold and the noncarcinogenic hazard index target of 1.0 for the hypothetical future adult resident, the hypothetical future child resident, and the industrial worker. Arsenic was the primary contributor to both cancer risk and noncarcinogenic hazard, while benzo(a)pyrene also contributed significantly to cancer risk. In June 2001, the 45th SW IRP team evaluated the risk management decision-making process at Hangar 800. Based on the conservative nature of the risk assessment and the determination that COPC concentrations are below MCLs at Hangar 800, groundwater does not pose an unacceptable human health risk.

Due to lack of ecological habitat at Hangar 800, a full ERA was not conducted. Direct comparison of soil concentrations to ecological screening criteria indicated low-level exceedances of several compounds. Based on the minimal nature of these exceedances, the low frequency of detection of the contaminants, the conservative nature of the screening criteria, and the lack of viable habitat for eco-receptor foraging and exposure, potential ecological risk from soil exposure and/or ingestion was determined to be minimal. Groundwater was

not evaluated in the ERA, as there is no identified exposure pathway.

WHAT ARE THE CLEANUP OBJECTIVES AND LEVELS?

The remedial action objective (RAO) is to prevent unacceptable contact with site soils in areas where contaminant concentrations are higher than regulatory standards. Table 1 lists the Chemicals of Potential Concern (COPCs) present at Hangar 800. The first column lists the chemical name, the second column lists the maximum concentration in the impacted medium at Hangar 800 during the RFI, and the last column presents the clean-up level to be achieved at the site.

Please note that through the risk management decision process, several contaminants originally designated as COPCs in the risk assessment were determined not to pose an unacceptable risk (see “Summary of Site Risk”, above), and will not be addressed by the Remedial Action.

TABLE 1—CLEANUP GOALS

Site-Related Chemicals of Potential Concern (COPCs)	Maximum Detected Concentration (mg/kg)	Site-Specific Clean-up Level ¹ (mg/kg)
SOIL		
Benzo(a)pyrene	0.14	0.1

¹ Clean-up level represents the most stringent value among USEPA and FDEP criteria at the time of the final investigation.

CLEANUP ALTERNATIVES FOR HANGAR 800

Clean-up alternatives are different combinations of plans to restrict site use and to contain, remove, and/or treat contamination in order to protect public health and the environment. Only two alternatives were considered because of low levels of contamination present at the Hangar 800. The clean-up alternatives considered for the Hangar 800 are summarized below.

No Action: Evaluation of the No-Action alternative is used as a basis for comparison with other alternatives. Under this alternative, no remedial action would be taken to reduce human health risks or restrict site use. It was determined this alternative would not attain the RAO.

Land Use Controls: Under this alternative, the 45th SW would implement site-specific land use controls and measures to limit exposure to site soils. The 45th SW, USEPA, and FDEP have entered into a Memorandum of Agreement (MOA), which outlines how land use controls will be managed at the 45th SW. The MOA requires periodic inspections, warning signs, condition certification, and construction project coordination and agency notification. Site-specific details can be found in the Hangar 800 Land Use Control Implementation Plan (LUCIP).

EVALUATION OF REMEDY ALTERNATIVES

Each cleanup alternative was evaluated to determine how each potential remedy would comply with the four general standards for corrective measures. The four general standards for corrective measures are:

- Overall protection of human health and the environment;
- Attain media cleanup standards;
- Control the sources of releases; and
- Comply with standards for management of wastes

The second alternative (Land Use Controls) meets each of the above criteria, while the no action alternative remedy would not meet them.

LAND USE CONTROLS AGREEMENT

By separate MOA dated 23 December 1999, with USEPA and FDEP, PAFB, on behalf of the Department of the Air Force, agreed to implement base-wide, certain periodic site

inspection, condition certification, and agency notification procedures designed to ensure the maintenance by installation personnel of any site-specific land use controls deemed necessary for future protection of human health and the environment. A fundamental premise underlying execution of that agreement was that through the USAF's substantial good-faith compliance with the procedures called for therein, reasonable assurances would be provided to the USEPA and FDEP as to the permanency of those remedies which included the use specific land use controls.

Although the terms and conditions of the MOA are not specifically incorporated or made enforceable herein by reference, it is understood and agreed by the USAF, USEPA, and FDEP that the contemplated permanence of the remedy reflected herein shall be dependent on PAFB's substantial good-faith compliance with the specific land use control maintenance commitments reflected therein. Should such compliance not occur or should the MOA be terminated, it is understood that the protectiveness of the remedy concurred in may be reconsidered and that additional measures may need to be taken to adequately ensure necessary future protection of human health and the environment.

WHAT IMPACTS WOULD THE CLEANUP HAVE ON THE LOCAL COMMUNITY?

There would be no impacts to the local community because residential use of the Hangar 800 is not occurring nor is it expected in the near future. As long the PAFB remains an active military facility and continues to support the space program, Hangar 800 is expected to continue operating in an industrial capacity.

Although remaining soil concentrations do not exceed FDEP Industrial Soil Cleanup Target Levels, the human health risk assessment indicated a low-level potential risk to future site workers. Based on this potential risk, land use

controls will be put in place to ensure that workers are adequately protected when engaging in activities that require contact with soil.

WHY DOES THE 45th SW IRP TEAM RECOMMEND THIS REMEDY?

The 45th IRP team recommends the proposed remedy because it will provide sufficient and cost efficient safeguards for residential exposures scenarios.

Although all remaining soil contaminant concentrations are below the FDEP Industrial Soil Cleanup Target Levels, controls are needed to mitigate the low-level risk to site workers that was calculated during the human health risk assessment. In order to be conservative and ensure that workers are adequately protected, the remedy also provides controls that will regulate worker exposure and ensure that protective equipment is employed, when warranted. Additionally, it will maintain an environment consistent with current usage so there is no significant increase for potential exposure to ecological receptors. The proposed remedy meets the four general standards for corrective measures.

NEXT STEPS

The 45th SW IRP team will review all comments on this SB to determine if the proposed remedy needs modification prior to implementation and prior to incorporating the proposed remedy into the PAFB HSWA permit. If the proposed remedy is determined to be appropriate for implementation, then site's land use controls will be initiated and a LUCIP will be developed and incorporated into the MOA.



LAND USE CONTROL IMPLEMENTATION PLAN

HANGAR 800 SOLID WASTE MANAGEMENT UNIT 42 (SWMU NO. 42) 45TH SPACE WING PATRICK AIR FORCE BASE BREVARD COUNTY, FLORIDA

Facility Description

Hangar 800, Solid Waste Management Unit 42 (SWMU No. 42), is located on the main portion of Patrick Air Force Base (PAFB) along South Patrick Drive. It is situated approximately 500 feet west of the Atlantic Ocean, at the northeastern end of the main runway at PAFB. Hangar 800 was constructed in 1945 and has primarily served as a control tower and an air terminal for passengers and freight. Aircraft servicing operations, such as refueling and replenishing oil, along with minor aircraft maintenance activities were carried out at the site from 1945 to 1988.

Location

(Reference Site Map on last page of this document)

Site Plan Coordinate	Northing	Easting
North	1421900.50	784108.55
West	1421497.72	783789.68
South	1420896.35	784153.30
East	1420913.13	784259.59

Objective

Implementation of site-specific land use controls to prevent exposure of hypothetical future residents to the soil.

Land Use Controls (LUCs) to be Implemented:

Administrative:

- The property will be prohibited from residential or other non-industrial development without prior written notification to the Florida Department of Environmental Protection (FDEP) and the United States Environmental Protection Agency (USEPA) concerning the SWMU land use change. Dependent on site conditions and the nature and intensity of the proposed land use change, additional site investigations and assessments could be required for the United States Air Force (USAF). Based on these analyses, additional remedial measures may be required prior to land use

LUCIP
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change.

- Perform and document baseline LUC audit upon finalization of the Statement of Basis.
- Perform and document quarterly LUC compliance inspections in accordance with 45th SW LUC Operations Manual.
- Perform, document, and report an annual audit on LUC implementation, maintenance, and compliance in accordance with the 45th SW LUC Operations Manual and the current PAFB Corrective Action Management Plan (CAMP).
- The property Land Use Control Implementation Plan (LUCIP) shall remain in effect until:
 - a) Changes to applicable Federal and State risk-based clean-up standards occur which indicate site contaminants no longer pose potential residential risk; or
 - b) Reduction in site contaminant concentrations to below Federal and State residential risk-based clean-up standards occurs.
- In the event of property realignment, transfer, or re-use for non-industrial or non-commercial purposes, assessment and remediation may be necessary to ensure that impacts to ecological receptors are not increased or to mitigate potential ecological impacts where residual contamination exists.

Soil:

- Soils will not be disturbed or moved during property development, maintenance or construction, without:
 - a) USAF review, coordination, and approval of the proposed construction/development plans via AF Form 103 (Base Civil Engineer Work Clearance Request), 332 (Base Civil Engineer Work Request), 813 (Request for Environmental Impact Analysis), or similar process;
 - b) Ensuring proper engineering controls are in-place so that unauthorized release or disposal of the affected media does not occur. This includes conducting appropriate testing and developing a disposal plan in accordance with the LUC Operations Manual prior to off-site disposal; and
 - c) Use of proper personal protection equipment by site workers, as determined by the project proponent's occupational health and safety advisor.
- The site will be posted with proper warning signs in accordance with the LUC Operations Manual and the PAFB Hazardous and Solid Waste Amendments (HSWA) Permit.

Statement of Basis:

The Statement of Basis (SB) is currently being reviewed. It is anticipated that the SB will be accepted/incorporated into the HSWA Permit, scheduled for issuance early in 2002.

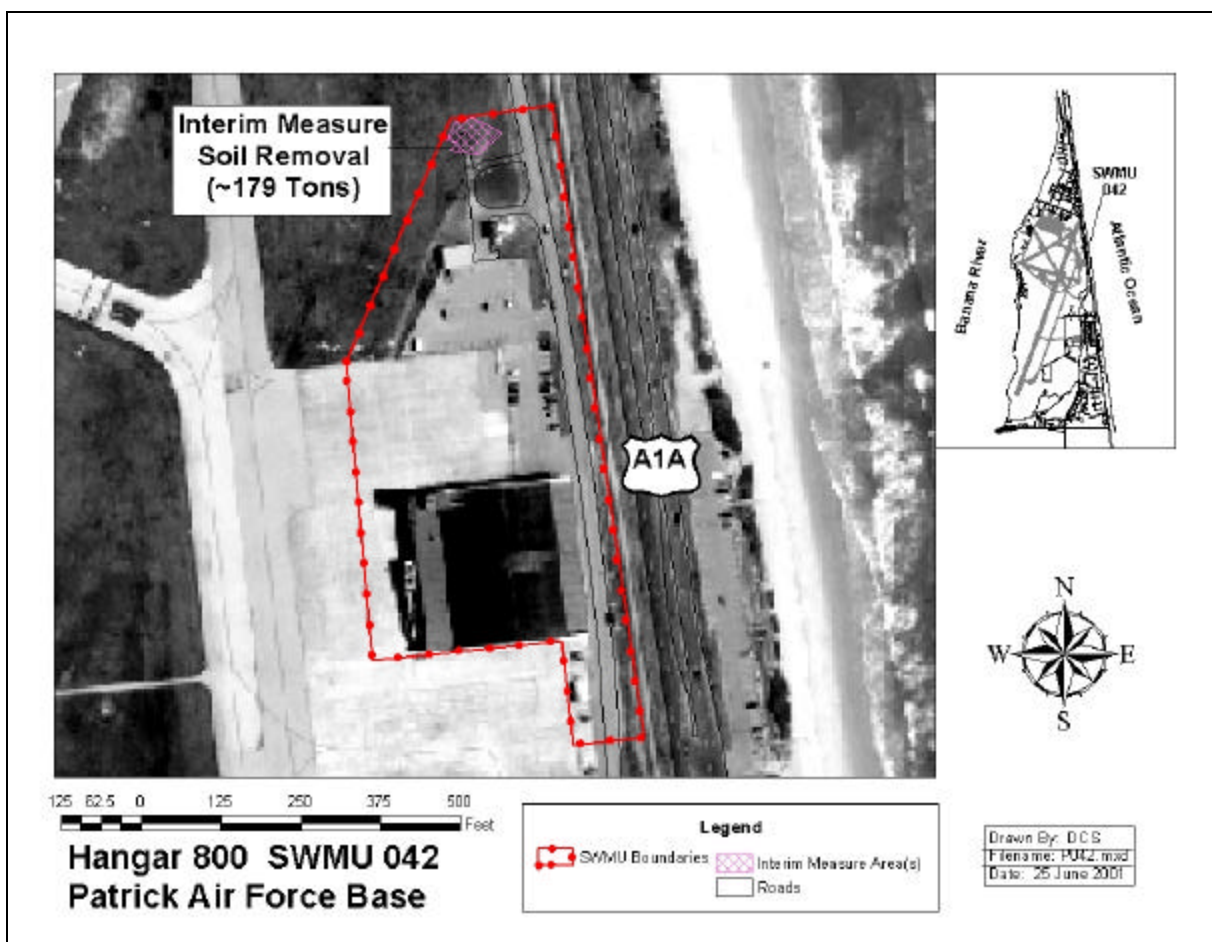
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Additional Information:

Pertinent Document Reference:

RCRA Facility Investigation, Hangar 800, SWMU No. 42, CH2M Hill, Inc., July 1998.

Hangar 800 – Site Map



Please contact the 45 SW Installation Restoration Program Office to obtain additional information, including: the 45 SW Land Use Controls Operation Plan; the PAFB HSWA Permit; a complete record of corrective actions at Hangar 800; or other related documents, guidance, and regulations. The IRP office can be reached by phone at (321) 853-0965. Information can also be obtained via the IRP website at http://www.mission-support.org/45SW_IRP_EA